

AMENDMENT TO THE CLAIMS

1. (Currently Amended) A hearing instrument, comprising:

at least one hearing instrument microphone for receiving an audio input signal;

a sound processor for processing the audio input signal to compensate for a hearing impairment and generate a processed audio signal;

at least one hearing instrument receiver for converting the processed audio signal into an audio output signal; and

a serial data port for coupling the hearing instrument to an external device, the serial data port being operable to transmit bi-directional digital audio signals between the hearing instrument and the external device;

wherein the serial data port may be coupled to the external device to transmit at least one of the audio input signal, the processed audio signal and the audio output signal to the external device.

2. (Original) The hearing instrument of claim 1, further comprising:

a selection circuitry operable to select at least one of the audio input signal, the processed audio signal and the audio output signal for transmission to the external device via the serial data port.

3. (Original) The hearing instrument of claim 2, wherein the hearing instrument is operable to receive a control signal for the selection circuitry, wherein the selection circuitry selects at least one of the audio input signal, the processed audio signal and the audio output signal based on the control signal.

4. (Original) The hearing instrument of claim 3, wherein the control signal is received from the external device via the serial data port.
5. (Original) The hearing instrument of claim 3, wherein the selection circuitry includes a multiplexer.
6. (Original) The hearing instrument of claim 2, wherein the selection circuitry is operable to select at least one additional audio signal from one or more hearing instrument nodes for transmission to the external device via the serial data port.
7. (Original) The hearing instrument of claim 1, wherein the external device is a computer.
8. (Original) The hearing instrument of claim 1, wherein the external device is a computer network.
9. (Original) The hearing instrument of claim 1, wherein the external device is a monitoring device.
10. (Original) The hearing instrument of claim 1, wherein the external device is a recording device.

11. (Original) The hearing instrument of claim 1, wherein the external device is a second hearing instrument.
12. (Original) The hearing instrument of claim 1, wherein the serial port may be coupled to the external device to inject an external audio signal into one or more hearing instrument nodes.
13. (Original) The hearing instrument of claim 12, wherein the hearing instrument nodes include an output of the hearing instrument microphone and an output of the sound processor.
14. (Original) The hearing instrument of claim 12, further comprising:
 - a selection circuitry operable to select at least one of the hearing instrument nodes and couple the serial data port to the selected hearing instrument node for injecting the external audio signal into the selected hearing instrument node.
15. (New) A digital hearing instrument configured to be inserted into a patient's ear canal, comprising:
 - an outer microphone for receiving a first audio signal from outside of the patient's ear canal;
 - a sound processor for processing the first audio signal to compensate for a hearing impairment and generate a processed audio signal;
 - a hearing instrument receiver for converting the processed audio signal into an audio output signal to be directed into the patient's ear canal;

an inner microphone for receiving a second audio signal from inside of the patient's ear canal; and

a serial data port for coupling the digital hearing instrument to an external device, the serial data port being configured to transmit the second audio signal to the external device.

16. (New) The digital hearing instrument of claim 15 wherein the serial data port is further configured to transmit bi-directional audio signals between the hearing instrument and the external device.

17. (New) The digital hearing instrument of claim 16, wherein the serial data port is further configured to transmit the first audio signal, the processed audio signal and the audio output signal to the external device.

18. (New) The digital hearing instrument of claim 17, further comprising:

a selection circuitry configured to select at least one of the first audio signal, the second audio signal, the processed audio signal and the audio output signal for transmission to the external device via the serial data port.

19. (New) The digital hearing instrument of claim 15, wherein the external device is used to monitor sound in the patient's ear canal to assess one or more performance characteristics of the digital hearing instrument.